

REMARKS

Applicants respond to each of the Examiner's rejections in turn.

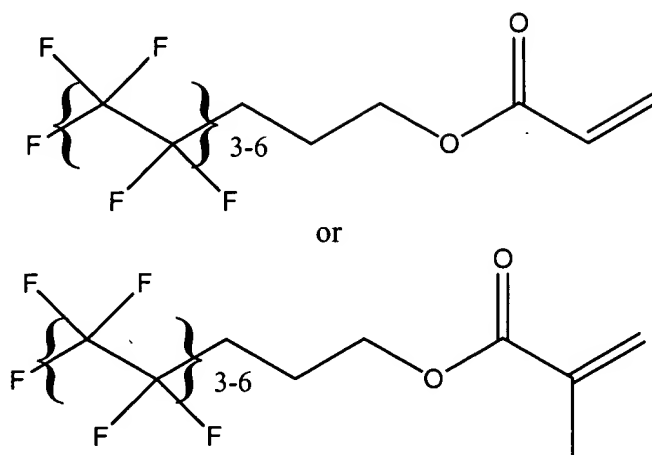
THE REJECTIONS

35 U.S.C. § 112, first paragraph

Claims 1-25, 40 and 41 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

First, the Examiner contends that the application does not show the structure of or the method of making a cationic fluoro(meth)acrylate monomer. The Examiner asserts that the monomers disclosed on page 10, lines 19-29, are not cationic and that the specification does not show how they can be made cationic. The Examiner further asserts that the trade names Nuva ACFPM and Nuva AGS do not identify a compound chemically and that the compound sold under those names could be changed or discontinued, and therefore do not provide the missing enablement. On these bases, the Examiner contends that undue experimentation would be required for the skilled artisan to practice the claimed invention. Applicants traverse.

The monomers disclosed on page 10, lines 19-29, of the application, as originally filed, have the following structural formulas:



The compositions of the invention are mixtures of varying ratios of copolymers comprising these monomers in emulsions with different glass transition temperatures. See e.g., p. 11, lines 3-10. One of skill in the art would understand that the copolymer compositions of the present invention are rendered cationic once the copolymers are emulsified, using a cationic emulsifier, into aqueous solution. This is disclosed in the specification, for example, at p. 9, line 18 to p. 10, line 17. Given the routine use of such emulsifiers, the level of skill in the art and the present disclosure, there is no undue experimental burden on the skilled worker in making and using the cationic copolymer compositions of the present invention.

The fact that two illustrative co-polymers of this invention are referred to by their trademarks does not change the enabling character of the specification. It teaches the skilled worker the starting monomer to use, the conditions of polymerization and the characteristics of the resulting co-polymer. That is enough to teach the skilled worker how to make and use the claimed invention. Fluorinated acrylate and methacrylate copolymers of this invention are described on page 10, lines 18-28, and therefore the recitation of the trademarks under which certain of these products are sold is

merely illustrative. Further, applicants have attached at Exhibit A copies of the specifications of Nuva® FBN, HPC, HPS, HPU, TP, and TTC, all of which belong to Clariant International Ltd.'s Nuva® series of textile treatments. These trade names identify weakly cationic dispersions of fluorine compounds that are hydrophobic and oleophobic finishing products for textiles made of synthetic and/or cellulosic fibers. One of skill in the art would recognize that the recitation of the Nuva® trademark (Trademark Registration No. 1262751, Soil and Oil Repellent Finish for Textiles) in the specification to teach that such finishing products may be used in this invention and therefore said exemplary recitation would enable a skilled artisan to make and use these and other such copolymers.

Second, the Examiner contends that there is nothing in the specification to show what a hydrophilic polyester is or how a polyester can be made hydrophilic. The Examiner contends that there is no chemical formula or structure given and no guidance as to how one can make a normally hydrophobic polyester, hydrophilic. The Examiner further contends that the compound sold under the trade name Cassapret SRH is not identified chemically and therefore the name alone provides no guidance to the skilled artisan. Applicants traverse.

Hydrophilic polyester adducts used in the chemical treatment of textiles are well known in the art. See, e.g., U.S. Patent No. 3,981,807. Therefore, applicants' disclosure of a hydrophilic polyester additive would be sufficient to enable one of skill in the art to make and use the present invention. Applicants have also attached at Exhibit B the specification for Cassapret® SRH A liquid from Clariant International Ltd. It

describes one exemplary nonionic, modified polyester copolymer additive and hydrophilic softener as disclosed in the specification. One of skill in the art would recognize that Cassappret® possesses the qualities disclosed in the specification as filed and would therefore be able to make and use applicants' claimed invention with this product or any other that has the recited properties.

Third, the Examiner contends that, while the specification might be enabling for a nonionic hydrophilic polyester, it does not reasonably provide enablement for any hydrophilic, nonionic softener, for example, glycerol. The Examiner asserts that since the chemical composition or structure of the claimed hydrophilic, nonionic polyester is not known, the trade name without a formula is not enabling and therefore requires undue experimentation on the part of the skilled artisan. Applicants traverse.

It should be noted that a "patent need not teach, and preferably omits, what is well known in the art." *In re Buchner*, 929 F.2d 660, 661, 18 USPQ2d 1331, 1332. The term 'softener' is well known in the art and is defined as,

"One of several products on the market used in warp sizing and cloth finishing to impart a soft mellowness to the fabric. Examples of softeners include sulphonate castor or palm oil, glucose, glycerine, paraffin wax, tallow, etc. There are also available the durable types of cationic softeners which resist removal from the fabric by either dry cleaning or washing."

(G. E. Linton, *The Modern Textile Dictionary*, Meredith Publishing Co.,

© 1954, 1963)

Furthermore, 'softeners' is a generic term of art for additives that improve the soil release properties and anti-static properties of oil and water repellant compositions used on fabrics. One of the skill in the art would recognize that many such softeners exist and possess different qualities, particularly with regard to hydrophilicity/hydrophobicity and ionic charge. Applicants attach herewith at Exhibit C the specifications for three such nonionic, hydrophilic softeners used in the art, in particular, Sandoperm® RPU manufactured by Clariant International Ltd.; Unisoft NH, manufactured by Eksoy Chemicals; and Amifeel HD, manufactured by Vishal Syndicate.

Finally, the Examiner asserts that the specification, while enabling for a dispersion of a zirconium salt in paraffin, does not reasonably provide enablement for any inorganic additive, like an emulsion of calcium carbonate in water. The Examiner contends that the specification does not enable the skilled artisan to practice the invention commensurate with the scope of the claims. The Examiner also asserts that the chemical composition of Cerol ZE is not disclosed and therefore non-enabling.

The recitation of a dispersion of a zirconium salt in paraffin is merely an exemplary recitation of an inorganic emulsion that may be used to achieve the ends of applicants' claimed invention. The definition of 'emulsion', as given by the Merriam-Webster Dictionary (2003) is "a system (as fat in milk) consisting of a liquid dispersed with or without an emulsifier in an immiscible liquid usually in droplets of larger than colloidal size." Applicants' disclosure, in view of the relevant level of skill in the art, would enable a broad range of inorganic salts in emulsion. Applicants, for example, direct the Examiner's attention to the references enclosed herewith at Exhibit A. Each

provides the specifications for the products sold under the trade names Nuva® HPC, HPU and TTC. Each product uses Cerol® EWL liquid, as a component of a composition. It provides water- and oil-repellent characteristics to treated fabrics.

In view of the foregoing, applicants respectfully request that the Examiner reconsider and withdraw the rejections under 35 U.S.C. § 112, first paragraph.

35 U.S.C. § 112, second paragraph

Claims 1-25, 40 and 41 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that applicants regard as their invention. In particular, the Examiner contends that the term “near ambient temperature” in claims 1 and 40 is a relative term which renders the claim indefinite. The Examiner asserts that the scope of the term “near” is not clear as being within 5, 10 or 15 degrees Celsius or another number. The Examiner further contends that it is not clear what is intended as the prevailing room temperature, 15, 20, 25 or 30 degrees Celsius. Applicants traverse.

The terms “ambient” temperature and “near” these temperatures are well understood by those skilled in the art.


“Ambient temperature” is defined on page 7, lines 33-35 in the specification as “prevailing room temperature”. This is consistent with its plain and ordinary meaning. The Collins English Dictionary (2000) defines “room temperature” as “the normal temperature of a living room, usually taken as being around 20°C.”

“Near” that temperature also has a plain and ordinary meaning to the skilled worker. The Merriam-Webster Dictionary (2003) defines “near” as “not far distant in time, place, or degree.” One of skill in the art would understand that applicants’ claimed invention could be used in range of temperatures commonly experienced under normal living conditions. Therefore, applicants respectfully request that the Examiner withdraw his rejection under 35 U.S.C. § 112, second paragraph.

CONCLUSION

Applicants request that the Examiner consider the accompanying remarks and allow the pending claims of the present application to issue.

Respectfully submitted,


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Technical Information**Nuva FBN liq****Nuva® FBN liquid**

Nuva FBN liq. is a finishing product for water- and oil-repellent finishing of textiles made of synthetic and cellulosic fibres, especially cotton, polyester and their blends.

Nuva FBN liq. displays low sensitivity to residues on the goods such as detergent surfactants, dye residues and alkalis.

Especially on wovens very good effects can be achieved by using **Nuva FBN liq.** .

1 Properties

Appearance	Liquid, milky-white dispersion
Composition	Dispersion of a fluorine compound
Ionicity	weakly cationic
pH (5% as it is; DIN 53 996)	about 3.5
Flash point (DIN 51 755)	> 100°C
Dilutability	Miscible in all proportions with (cold) water
Compatibility with other finishing products	Compatible with numerous crosslinking agents, catalysts, softeners and other textile auxiliaries. Preliminary trials should in principle be carried out.
Storage	Can be kept for at least 6 months if stored correctly (between 5°C and 40°C).

2 Application properties

Oleophobic-/hydrophobic effect

Very good values of high durability are achieved if the product is used in accordance with the recipe.

Handle

Neutral handle

Rub fastness

Slight improvement in rub fastness

Handle

Soft, smooth handle

3 Application

Nuva FBN liq. can be applied by padding, foam, spray^{*)} and exhaust methods.

Depending on the type of fibre and requirements, the amounts used are 15 - 70 g/l for padding and 1.5 - 7 % for exhaust methods, relative to the weight of the goods. The pH of the finishing liquor should be 4 - 5 and may need to be adjusted with 0.5 - 1.0 ml/l acetic acid 60 %.

The water- and oil-repellent effects can be impaired by residues of auxiliaries on the goods being finished such as fiber finish oils, sizes, surfactants or dyeing assistants. This is also the case when silicone-containing finish oils or softeners are used. We therefore recommend preliminary washing with 1 g/l **Ladiquest® 1097N liq.** followed by rinsing and acidification with 1 ml/l acetic acid 60 %.

^{*)} Safety hints

If **Nuva FBN liq.** is applied by **spraying** sufficient **ventilation** is essential or **respiratory protection** must be used. **Atomised product must not be inhaled.**

4 Finishing examples

PES/Co or 100% Co with wash- und wear-abilities

40 - 60 g/l ®Arkofix NDL conc.
12 - 18 g/l Catalyst NKS liq.
20 - 50 g/l **Nuva FBN liq.**
0 - 1 g/l acetic acid, 60 %

pad, dry at 110 - 130°C
cure for 3 min at 150°C or 30 - 40 s at 170 - 180°C.

100% Co

30 - 50 g/l **Nuva FBN liq.**
0 - 1 g/l acetic acid, 60 %

pad, dry at 110 - 130°C
cure for 3 min at 150°C or 30 - 40 s at 170 - 180°C.

Polyamide anorak fabric, polyester fabric

20 - 40 g/l **Nuva FBN liq.**
0 - 1 g/l acetic acid, 60 %

pad, dry at 110 - 130°C
cure for 3 min at 150°C or 30 - 40 sec at 170 - 180°C
post-calendering possible.

Many of their dyestuffs, pigments and chemicals are patented by Clariant Ltd or its affiliates in numerous industrial countries.

® Trademark registered by Clariant Ltd or Clariant GmbH in numerous countries.

* Trademark licensed to Clariant Ltd in numerous countries.

+ Manufacturer's registered trade mark

The signs ®, * and + appear only at the first mention of the product.

The information and recommendations presented here were compiled with the utmost care, but cannot be extended to cover every possible case. They are intended to serve as non-binding guidelines and must be adapted to the prevailing conditions.

Technical Information**Nuva HPS liq****Nuva® HPS liquid**

Nuva HPS liq. is a finishing product for extremely durable water- and oil-repellent finishing of textiles made of synthetic fibers especially polyester, polyamide and their blends.

Nuva HPS liq. displays low sensitivity to residues on the goods.

Nuva HPS liq. shows a very good laundry air dry potential.

1 Properties

Appearance	Liquid, beige dispersion
Composition	Dispersion of a fluorine compound
Ionicity	Weakly cationic
pH (5% as it is; DIN 53 996)	about 4.5
Density, 20°C (DIN 51757)	approx. 1,1 g/cm ³
Fash point (DIN 51755)	>100°C
Dilutability	Miscible in all proportions with (cold) water
Compatibility with other finishing products	Compatible with numerous crosslinking agents, catalysts, softeners and other textile auxiliaries. Preliminary trials should in principle be carried out.
Storage	Can be kept for at least 6 months if stored correctly (between 5°C and 40°C).

2 Application properties

Oleophobic-/hydrophobic effect

Very good values of high durability are achieved if the product is used in accordance with the recipe.

Handle

Neutral handle.

Laundry Air Dry Potential

After washing, textiles applied with **Nuva HPS liq.** already show good results in hydrophobic effects by air drying.

3 Application

Nuva HPS liq. can be applied by padding, spray^{*)}, foam and exhaust methods. Depending on the type of fibre and requirements, the amounts used are 10 - 50 g/l for padding and 1 - 5% for exhaust methods, relative to the weight of the goods. The pH of the finishing liquor should be 4 - 5 and may need to be adjusted with 0.5 - 1.0 ml/l acetic acid 60 %.

The water- and oil-repellent effects can be impaired by residues of auxiliaries on the goods being finished such as fibre finish oils, sizes, surfactants or dyeing assistants. This is also the case when silicone-containing finish oils or softeners are used. We therefore recommend preliminary washing with 1 g/l **Ladiquest® 1097N liq.** followed by rinsing and acidification with 1 ml/l acetic acid 60 %.

^{*)} Safety hints

If **Nuva HPS liq.** is applied by **spraying** sufficient **ventilation** is essential or **respiratory protection** must be used. **Atomised product must not be inhaled.**

4 Finishing examples

100% polyamide

0 - 1	ml/l	acetic acid 60%
0 - 5	g/l	Cassurit® HML liq.
0 - 5	g/l	Catalyst CR liq.
20 - 50	g/l	Nuva HPS liq.
2,5 - 7,5	g/l	Fluowet® UD liq.

- pad, dry at 110-130°C
- cure for 3 min at 150°C or 30-40 s at 170-180°C*.

100% polyester

0 - 1	ml/l	acetic acid 60%
10 - 20	g/l	Nuva HPS liq.
2,5 - 7,5	g/l	Fluowet UD liq.

- pad, dry at 110-130°C
- cure for 3 min at 150°C or 30-40 s at 170-180°C*.
- post calendering is possible

* In some cases higher curing temperatures have a very beneficial effect on wash fastness.

Many of their dyestuffs, pigments and chemicals are patented by Clariant Ltd or its affiliates in numerous industrial countries.

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* Trademark licensed to Clariant Ltd in numerous countries.

+ Manufacturer's registered trade mark

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Technical Information**Nuva HPU liq****Nuva® HPU liquid**

Nuva HPU liq. is a finishing product for extremely durable water- and oil-repellent finishing of textiles made of synthetic and cellulosic fibres, especially cotton, polyamide and their blends.

Nuva HPU liq. displays low sensitivity to residues on the goods.

1 Properties

Appearance	Liquid, milky-white dispersion
Composition	Dispersion of a fluorine compound
Ionicity	Weakly cationic
pH (5% as it is; DIN 53 996)	about 4
Flash point (DIN 51 755)	> 100°C
Dilutability	Miscible in all proportions with (cold) water
Compatibility with other finishing products	Compatible with numerous crosslinking agents, catalysts, softeners and other textile auxiliaries. Preliminary trials should in principle be carried out
Storage	Can be kept for at least 6 months if stored correctly (between 5°C and 40°C).

2 Application properties

Oleophobic-/hydrophobic effect

Very good values of high durability are achieved if the product is used in accordance with the recipe.

Handle

Neutral handle

Laundry Air Dry Potential

After washing, textiles applied with **Nuva HPU liq.** already show good results in hydrophobic effects by air drying.

3 Application

Nuva HPU liq. can be applied by padding, spray^{*)}, foam and exhaust methods. Depending on the type of fibre and requirements, the amounts used are 15 - 70 g/l for padding and 1.5 - 7 % for exhaust methods, relative to the weight of the goods. The pH of the finishing liquor should be 4 - 5 and may need to be adjusted with 0.5 - 1.0 ml/l acetic acid 60 %.

The water- and oil-repellent effects can be impaired by residues of auxiliaries on the goods being finished such as fiber finish oils, sizes, surfactants or dyeing assistants. This is also the case when silicone-containing finish oils or softeners are used. We therefore recommend preliminary washing with 1 g/l **Ladiquest® 1097N liq.** followed by rinsing and acidification with 1 ml/l acetic acid 60 %.

^{*)} Safety hints

If **Nuva HPU liq.** is applied by **spraying** sufficient **ventilation** is essential or **respiratory protection** must be used. **Atomised product must not be inhaled.**

4 Finishing examples

100% Co or PES/Co with wash- and wear abilities

0 - 1	ml/l	acetic acid 60%
40 - 60	g/l	Arkofix® NDL konz.
10 - 15	g/l	Katalysator NKS liq.
30 - 50	g/l	Nuva HPU liq.

- pad, dry at 110 - 130°C
- cure for 3 min. at 150°C or 30 - 40 s at 170 - 180°C*.

100% PA oder 100% PES

0 - 1	ml/l	acetic acid 60%
20 - 40	g/l	Nuva HPU liq.

- pad, dry at 110 - 130°C
- cure for 3 min. at 150°C or 30 - 40 s at 170 - 180°C*.
- post-calendering possible.

100% Co

0 - 1	ml/l	acetic acid 60%
30 - 50	g/l	Nuva HPU liq.

or

0 - 1	ml/l	acetic acid 60%
120 - 140	g/l	Cerol® EWL liq.
50 - 70	g/l	Cassurit® MLG liq.
60 - 80	g/l	Nuva HPU liq.

- pad, dry at 110 - 130°C
- cure for 3 min. at 150°C or 30 - 40 s at 170 - 180°C*.

* In some cases higher curing temperatures have a very beneficial effect on wash fastness.

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Technical Information**Nuva TP liq****Nuva® TP liq.**

Nuva TP liq. is a product for outstandingly permanent water- and oil-repellent finishing of textiles made of synthetic and cellulosic fibres, especially cotton, viscose and their blends.

Nuva TP liq. displays low sensitivity to residues on the goods, such as washing surfactants, dye residues and alkali.

1 Properties

Appearance	Liquid, milky-white dispersion
Composition	Dispersion of a fluorine compound
Ionicity	Weakly cationic
pH (5% as it is; DIN 53 996)	about 4
Flash point (DIN 51 755)	> 100°C
Dilutability	Miscible with (cold) water in any proportion
Compatibility with other finishing products	Compatible with numerous crosslinking agents, catalysts, softeners and other textile auxiliaries. Preliminary are recommended in each case.
Storage	Can be kept for at least 6 months if stored correctly (between 5°C and 40°C).

2 Application properties

Oleophobic-/hydrophobic effect

Very good values of high durability are achieved if the product is used in accordance with the recipe.

Handle

Smooth handle

3 Application

Nuva TP liq. can be applied by padding, spraying^{*)}, foam and exhaust processes. Depending on the type of fibre and requirements, the amounts used are 15 - 60 g/l for padding and 1.5 - 6 % for exhaust process, relative to the weight of the goods. The pH of the finishing liquor should be 4 - 5 and may need to be adjusted with 0.5 - 1.0 ml/l acetic acid 60 %.

The water- and oil-repellent effects can be impaired by residues of auxiliaries on the goods being finished such as fibre finish oils, sizes, surfactants or dyeing assistants. This is also the case when silicone-containing finish oils or softeners are used. We therefore recommend preliminary washing with 1 g/l **Ladiquest® 1097N** followed by rinsing and acidification with 1 ml/l acetic acid 60 %.

^{*)} Safety hints

If **Nuva TP liq.** is applied by **spraying** sufficient **ventilation** is essential or **respiratory protection** must be used. **Atomised product must not be inhaled.**

4 Finishing examples

100% Co or PES/Co

0 - 1	ml/l	acetic acid 60%
0 - 60	g/l	Arkofix® NDL conc.
0 - 15	g/l	Catalyst NKS liq
20 - 60	g/l	Nuva TP liq.

- pad, dry at 110-130°C
- cure for 3 min. at 150°C or 30-40 sec. at 170-180°C*.

100% PA or 100% PES

0 - 1	ml/l	acetic acid 60%
16 - 60	g/l	Nuva TP liq.

- pad, dry at 110-130°C
- cure for 3 min. at 150°C or 30-40 sec. at 170-180°C*
- post-calendering possible.

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Technical Information**Nuva TTC liq****Nuva® TTC liquid**

Nuva TTC liq. is a finishing product for extremely durable water- and oil-repellent finishing of textiles made of synthetic and cellulosic fibres, especially cotton, polyester and their blends.

Nuva TTC liq. displays low sensitivity to residues on the goods.

Nuva TTC liq. displays very good stabilities at high squeezing pressures without precipitations.

1 Properties

Appearance	Liquid, milky-white dispersion
Composition	Dispersion of a fluorine compound
Ionicity	Weakly cationic
pH (5% as it is; DIN 53 996)	about 3.5
Flash point (DIN 51 755)	> 100°C
Dilutability	Miscible in all proportions with (cold) water
Compatibility with other finishing products	Compatible with numerous crosslinking agents, catalysts, softeners and other textile auxiliaries. Preliminary trials should in principle be carried out.
Storage	Can be kept for at least 6 months if stored correctly (between 5°C and 40°C).

2 Application properties

Oleophobic-/hydrophobic effect

Very good values of high durability are achieved if the product is used in accordance with the recipe.

Handle

Neutral handle

3 Application

Nuva TTC liq. can be applied by padding, foam, spray^{*)} and exhaust methods. Depending on the type of fibre and requirements, the amounts used are 15 - 70 g/l for padding and 1.5 - 7 % for exhaust methods, relative to the weight of the goods. The pH of the finishing liquor should be 4 - 5 and may need to be adjusted with 0.5 - 1.0 ml/l acetic acid 60 %.

The water- and oil-repellent effects can be impaired by residues of auxiliaries on the goods being finished such as fibre finish oils, sizes, surfactants or dyeing assistants. This is also the case when silicone-containing finish oils or softeners are used. We therefore recommend preliminary washing with 1 g/l **Ladiquest® 1097N liq.** followed by rinsing and acidification with 1 ml/l acetic acid 60 %.

^{*)} Safety hints

If **Nuva TTC liq.** is applied by **spraying** sufficient **ventilation** is essential or **respiratory protection** must be used. **Atomised product must not be inhaled.**

4 Finishing examples

100% Co or PES/Co with wash- and wear abilities

0 - 1	ml/l	acetic acid 60%
40 - 60	g/l	Arkofix® NDL conc.
12 - 18	g/l	Catalyst NKS liq.
20 - 40	g/l	Nuva TTC liq.

- pad, dry at 110 - 130°C
- cure for 3 min. at 150°C or 30 - 40 s at 170 - 180°C*.

100% PA or 100% PES

0 - 1	ml/l	acetic acid 60%
20 - 40	g/l	Nuva TTC liq.

- pad, dry at 110 - 130°C
- cure for 3 min. at 150°C or 30 - 40 s at 170 - 180°C*
- post-calendering possible.

100% Co

0 - 1	ml/l	acetic acid 60%
20 - 50	g/l	Nuva TTC liq.

or

0 - 1	ml/l	acetic acid 60%
120 - 140	g/l	Cerol® EWL liq.
50 - 70	g/l	Cassurit® MLG liq.
60 - 80	g/l	Nuva TTC liq.

- pad, dry at 110 - 130°C
- cure for 3 min. at 150°C or 30 - 40 s at 170 - 180°C*.

* In some cases higher curing temperatures have a very beneficial effect on wash fastness.

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+ Manufacturer's registered trade mark

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Technical Information**Cassappret SRHA liq****Cassappret® SRH A liq**

Hydrophilizing agent that gives textiles a soft, supple handle, improves their soil release behavior and reduces electrostatic charging.
For the moisture-management finish of PES Sportwear

1 Properties*)

• Composition	Modified polyester copolymer
• Appearance	Milky white liquid
• Ionicity	Nonionic
• pH value	6.5 - 8 (at 20°C)
• Dilutability	Can be diluted with cold water in any ratio
• Density	approx. 1.05 g/cm ³ (at 20°C)
• Storage	If properly stored, the product can be kept for 1 year. Frost group B: can be reused after thawing and homogenizing if it was frozen
• Stability	Stable to acids, alkalis and water hardness salts in the concentrations usually encountered in textile processing
• Compatibility with other textile finishing products	Compatible with softeners and silicone elastomers. As a general rule preliminary trials should be carried out.

*) These characteristics are for guidance only and not to be taken as product specifications. The tolerances are given in the product specification sheet. For further product properties, specifications, safety and ecological data, please refer to the MSDS.

2 Application properties

- | | |
|------------------------|---|
| • Rewettability | Gives a marked improvement on polyester fibers |
| • Softening effect | Soft, supple handle |
| • Antistatic effect | Notable improvement in the electrical conductivity of polyester fibers |
| • Soil release | Reduces the soil retentivity of articles made of polyester fibres |
| • White fabrics | No impairment of whiteness under normal textile processing conditions |
| • Colored fabrics | Generally has no effect on the shade. When applied by the pad method, however, it may encourage thermomigration of certain dyes at above 150°C and this may adversely affect fastness to rubbing. |
| • Stability to washing | Withstands repeated mild washing. |

3 Application

Cassappret SRH A liq is a hydrophilizing agent for woven and knitted synthetic fiber textiles, especially those made from polyester fibers and polyester/cellulosic fiber blends (part of cellulosic fibres not over 50 %). **Cassappret SRH A liq** can be applied by the exhaust method or padding. To produce noticeable effects it should be used in quantities of at least 2% (2-5%) relative to the weight of the goods.

4 Examples of application

Exhaust method

Woven or knitted fabrics made from 100% polyester fibers:

2 – 5 % **Cassappret SRH A liq**

add to the bath at room temperature, treat
for 20 - 30 min. at 60 - 70 °C, then hydroextract
and dry at 120 - 130 °C

Padding methods

1. Woven or knitted fabrics made from 100% polyester fibers:

20 – 30 g/l **Cassappret SRH A liq**

pad
liquor pick-up approx. 40 – 60%
dry at 120 - 130°C

2. Woven or knitted fabrics made from 100% polyester fibers, very soft handle:

15 – 25 g/l **Cassappret SRH A liq**
5 – 7 g/l **Sandoperm SE1 liq**

pad
liquor pick-up 60 - 80 %
dry at 120-130°C

3. Woven or knitted fabrics made from 100% polyester fibers, antistatic finishing:

4 – 7 g/l **Cassappret SRH A liq**

pad
liquor pick-up 60 - 80 %
dry at 120-130°C
thermosetting for white fabrics is possible

4. Soil-release-finishing on polyester curtains (white fabric):

20 – 30 g/l **Cassappret SRH A liq**
2 – 8 g/l **Hostalux ERE**

pad
liquor pick-up 50 - 70 %
dry and thermoset 40 - 60 sec. at 180 - 185 °C

As an alternative to **Hostalux ERE** use of **Hostalux ETB** or **Hostalux ETB-N** under a.m.
conditions is possible. Depending on the used product there are differences in white shade.

5. Trevira CS:

The burning behavior of Trevira CS is not usually adversely affected by **Cassappret SRH A liq.**

Controlled testing is recommended.

Applied quantity:

30 – 50 g/l **Cassappret SRH A liq**

pad

liquor pick-up 40 - 60 %

dry at 120-130°C

cure for 1 min. at 145°C

This information is based on our present state of knowledge and is intended to provide general notes on our products and their uses. It should not therefore be construed as guaranteeing specific properties of the products described on their suitability for a particular application. Any existing industrial property rights must be observed. The quality of our products is guaranteed under our General Conditions of Sale.

Many of their dyestuffs, pigments and chemicals are patented by Clariant Ltd or its affiliates in numerous industrial countries.

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The signs ®, * and + appear only at the first mention of the product.

The information and recommendations presented here were compiled with the utmost care, but cannot be extended to cover every possible case. They are intended to serve as non-binding guidelines and must be adapted to the prevailing conditions.

Technical Information

Sandoperm RPU liq

Sandoperm* RPU liquid

Newly developed thermoreactive polyurethane for permanent soft handle effects on all natural and regenerated cellulose fibres as well as polyamide.

In combination with crosslinking agents this special polyurethane also improves the crease recovery angle and wash and wear behaviour of cellulosic fibres.

- produces a washfast, very full and extremely soft handle.
- the finished goods seem much fuller and appear heavier: higher quality goods are achieved.
- mainly applied in combination with silicone softeners.
- achieves suede-like finishing effects in combination with mechanical treatments such as buffing and emerizing.
- improves the elasticity and shape recovery of knit goods.
- produce hydrophilic finishing effects.
- is readily combinable with the usual finishing agents.
- does not impair the degree of whiteness of optically brightened goods and has only a slight effect on the shade of dyed goods.
- improves the crease recovery angle and wash and wear behaviour in combination with crosslinking agents for cellulosic fibres.
- is formaldehyde-free.
- has a high turbidity point and can therefore also be applied in countries with very high room temperatures.

1 Properties

Appearance	clear to weakly yellowish, slightly turbid, viscous liquid
• Chemical character	thermoreactive polyurethane resin
• Ionic character	nonionic
• pH of the commercial product	pH 6 - 8
• Dilutability	dilutable with cold water in any proportion
• Flash point	no flash point up to boiling point
• Storage stability	at least 6 months under storage conditions below 40°C
• Compatibility	
- nonionic products	good
- cationic products	good
- amphoteric products	good
- crosslinking agents	good
- optical brighteners	good
• Suitability for white goods	good
• Thermomigration	the product has a tendency to thermomigration
• Shade	slight shift of shade possible
• Formaldehyde content on finished goods	0 ppm
• Ecotoxicological data	see Safety Data Sheet

2 Mode of action

Sandoperm RPU liquid imparts a full, soft elastic handle to the goods. It crosslinks under the usual curing conditions for resin finishing and produces permanent effects which are fast to washing and dry cleaning.

Together with reactant crosslinking agents such as **Arkofix® NDF liquid** **c Sandoperm RPU liquid** is applied to improve the crease recovery angle and wash and wear behaviour of woven and knit goods of cotton, viscose and their blends with polyamide fibres. In such applications the amount of reactant crosslinking agent can be reduced.

3 Application

Type of application

- padding process	yes
- exhaust process	no
- spraying process	no

Padding process

Concentration 20.0 - 80.0 g/l Sandoperm RPU liquid

Normal curing: 150 - 160°C, 4 - 3 min

Shock curing: 170 - 180°C, 20 - 15 s

The time required for drying the goods must be added.

4 Sample recipes

4.1 Resin finishing of cellulosic fibres

60	g/l	Arkofix® NDF liquid c
15	g/l	Catalyst NKS liquid
25	g/l	Sandolube* SVN liquid
30	g/l	Solusoft® UP liquid
20 - 50	g/l	Sandoperm RPU liquid

pad at ca. 65% pickup

dry at 120 - 130°C

cure for 30 s at 170°C.

4.2 Resin finishing of cotton knit goods

40-75	g/l	Arkofix NDK liquid
35	g/l	Sandolube SVN liquid
20 - 50	g/l	Sandoperm RPU liquid

pad at ca. 70% pickup

dry at 120-130°C

cure for 30 s at 175°C.

4.3 Dimensional stability on 100% CV

70	g/l	Arkofix NEC Plus liquid c
24	g/l	Catalyst NKS liquid
20	g/l	Ceranine® NC liquid
15	g/l	Ceraperm® MW liquid c
20 - 50	g/l	Sandoperm RPU liquid

pickup: 70%

dry at 120 - 130°C

cure for 30 s at 175°C.

4.4 Hydrophilic finish on cotton or cotton/polyamide blends

25 - 80	g/l	Sandoperm RPU liquid
20 - 40	g/l	Sandoperm SE1 liquid

pickup: 70%

dry and cure at 170°C

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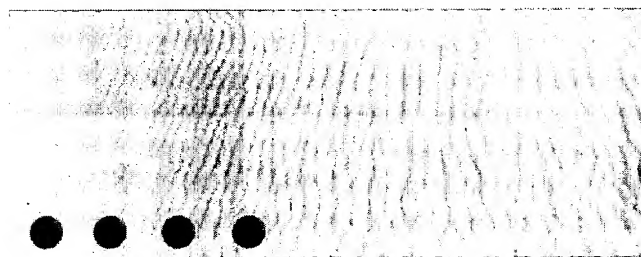
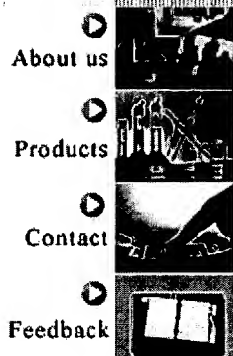
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UNISOFT NH

Nonionic Hydrophilic Softener

Characteristic	: Fatty acid derivatives								
Appearance	: White paste								
Ionic State	: Nonionic								
Properties	<ul style="list-style-type: none">- UNISOFT NH is a softening agent for the final finishing of woven and knitted fabrics made from cotton, viscose and synthetic fibers.- UNISOFT NH produces a soft and supple handle on cellulosic and sythetic fibers. An important property of UNISOFT NH is its compatibility with optical brighteners without detriment to the brightening effect.- Since UNISOFT NH imparts water absorbancy it is particularly recommended for the treatment of towels and knitted goods.- Due to hydrophilic effect of UNISOFT NH, the treated fabrics readily absorb the steam flushes on sanforizing range and hence final shrinking effect is safely reached.								
Solubility	: Soluble in slightly hot water								
pH(1%)	: 8.0								
Application	<ul style="list-style-type: none">- UNISOFT NH is diluted with warm water prior to addition into the tank. Depending upon the goods and the desired handle, the recommended amounts are;<table><tr><td colspan="2">Knit and Towel</td></tr><tr><td>Unisoft NH</td><td>2-4 %</td></tr><tr><td>Temperature</td><td>40 - 50° C</td></tr><tr><td>Time</td><td>20 min</td></tr></table>- Optikli mallarda kurutma sýcaklýđý 120° C civarýnda olmalýđýr.	Knit and Towel		Unisoft NH	2-4 %	Temperature	40 - 50° C	Time	20 min
Knit and Towel									
Unisoft NH	2-4 %								
Temperature	40 - 50° C								
Time	20 min								
Storage	: 6 months.								

These data are based on our practical experience and may be recommended only without any liability, due to the different plant conditions.

**AMIFEEL - HD****Other Products****PERMANENT HYDROPHILIC SOFTENER**

AMIFEEL - HD is specialty softener for fabrics requiring gentle yet hydrophilic finish. It is most suitable for all type of fabrics where cotton finish is desired.

AMIFEEL - HD - Besides improving the soil release properties of the finished goods, it does not permit soil redeposition. (Greying avoided).

It also makes the transport of moisture possible in an ideal manner while imparting an extraordinary soft handle to the goods.

Fabric wearing comfort is greatly enhanced on account of wicking properties of AMIFEEL - HD.

Properties

Appearance	: Clear Colourless liquid.
Chemical character	: Hydrophilic modified silicones.
Ionic character	: Non - ionic.
pH	: 6.5 - 7.5
Storage stability	: Good.
Stability	: Insensitive to hard water, acid, alkalis and electrolytes at the usual concentrations used.
Compatibility	: Combinable with anionic, cationic, non cationic products.

Applications

Recommended quantity	: 35 to 45 g/l pad at 80-90% pick-up, dry, cure.
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NOTE : This information is given in good faith but without any warranty and obligation. It is advisable to conduct prior trial to check the suitability of our products for intended process.

your satisfaction, before using them in bulk.